

RAA Definitions Section

“**Accredited UCAP**” shall mean the quantity of Unforced Capacity, as denominated in Effective UCAP, that an ELCC Resource is capable of providing in a given Delivery Year. ~~The Accredited UCAP of an ELCC Resource shall be determined based on: (1) the applicable ELCC Class Rating; and (2) the ELCC Resource’s ELCC Resource Performance Adjustment, in accordance with the methods set forth in RAA, Schedule 9.1 and in the PJM Manuals.~~

“**Combination Resource**” shall mean a Generation Capacity Resource that has a component that has the characteristics of a Limited Duration Resource combined with (i) a component that has the characteristics of an Unlimited Resource or (ii) a component that has the characteristics of a Variable Resource.

“**Effective Nameplate Capacity**” shall mean (i) for each Variable Resource and Combination Resource, the resource’s Maximum Facility Output; (ii) for each Limited Duration Resource, the sustained level of output that the unit can provide and maintain over a continuous period, whereby the duration of that continuous period matches the characteristic duration of the corresponding ELCC Class, with consideration given to ambient conditions expected to exist at the time of PJM system peak load, to the extent that such conditions impact such resource’s capability.

“**Effective UCAP**” shall mean a unit of measure that represents the capacity product transacted in the Reliability Pricing Model and included in FRR Capacity Plans. One megawatt of Effective UCAP has the same capacity value of one megawatt of Unforced Capacity.

“**ELCC Class**” shall mean a defined group of ELCC Resources that share a common set of operational characteristics and for which effective load carrying capability analysis, as set forth in RAA, Schedule 9.1, will establish a unique ELCC Class UCAP and corresponding ELCC Class Rating. ELCC Classes shall be defined in the PJM Manuals. ELCC Classes shall be defined such that the members of each ELCC Class are reasonably homogeneous in character and with respect to impact on system resource adequacy. ELCC Classes shall be defined for Limited Duration Resources of no less than four hours duration, and shall include 4-hour, 6-hour, 8-hour, and 10-hour duration characteristics, with matching duration classes for Combination Resources composed in part of one or more such ELCC Classes. Members of an ELCC Class shall share a common method of calculating the ELCC Resource Performance Adjustment, provided that the individual ELCC Resource Performance Adjustment values will generally differ among ELCC Resources.

“**ELCC Class Rating**” shall mean the rating factor, based on effective load carrying capability analysis, that applies to ELCC Resources that are members of an ELCC Class as part of the calculation of their Accredited UCAP.

“**ELCC Class UCAP**” shall mean the aggregate Effective UCAP all modeled ELCC Resources in a given ELCC Class are capable of providing in a given Delivery Year.

“**ELCC Portfolio UCAP**” shall mean the aggregate Effective UCAP that all modeled ELCC Resources are capable of providing in a given Delivery Year.

“**ELCC Resource**” shall mean a Generation Capacity Resource that is a Variable Resource, a Limited Duration Resource, or a Combination Resource.

“**ELCC Resource Performance Adjustment**” shall mean the performance of a specific ELCC Resource relative to the aggregate performance of the ELCC Class to which it belongs as further described in RAA, Schedule 9.1, section E.

“**Exigent Water Storage**” shall mean water stored in the pondage or reservoir of a hydropower resource which is not typically available during normal operating conditions (as those conditions are described in the relevant FERC hydropower license), but which can be drawn upon during emergency conditions (as described in the FERC hydropower license), including in order to avoid a load shed. In an effective load carrying capability analysis, exigent storage capability from an upstream hydro facility can be considered relative to a downstream hydro facility by assessing cascading storage and flows.

“**Generation Capacity Resource Provider**” shall mean a Member that owns, or has the contractual authority to control the output of, a Generation Capacity Resource, that has not transferred such authority to another entity.

“**Hydropower With Non-Pumped Storage**” shall mean a hydropower facility that can capture and store incoming stream flow, without use of pumps, in pondage or a reservoir, and the Generation Owner has the ability, within the constraints available in the applicable operating license, to exert material control over the quantity of stored water and output of the facility throughout an Operating Day.

“**Limited Duration Resource**” shall mean a Generation Capacity Resource that is not a Variable Resource, that is not a Combination Resource, and that is not capable of running continuously at Maximum Facility Output for 24 hours or longer. A Capacity Storage Resource is a Limited Duration Resource.

“**Ordinary Water Storage**” shall mean water stored in the pondage or reservoir of a hydropower resource which is typically available during normal operating conditions pursuant to the FERC license governing the operation of the hydropower resource.

“**Unlimited Resource**” shall mean a generating unit having the ability to maintain output at a stated capability continuously on a daily basis without interruption. An Unlimited Resource is a Generation Capacity Resource that is not an ELCC Resource.

“**Variable Resource**” shall mean a Generation Capacity Resource with output that can vary as a function of its energy source, such as wind, solar, run of river hydroelectric power without storage, and landfill gas units without an alternate fuel source. All Intermittent Resources are Variable Resources, with the exception of Hydropower with Non-Pumped Storage.

RAA SCHEDULE 9: PROCEDURES FOR ESTABLISHING THE CAPABILITY OF GENERATION CAPACITY RESOURCES

A. Such rules and procedures as may be required to determine and demonstrate the capability of Generation Capacity Resources for the purposes of meeting a Load Serving Entity’s obligations under the Agreement shall be developed by the Office of the Interconnection and maintained in the PJM Manuals.

B. The rules and procedures shall recognize the difference in the relative ability of units to maintain output at stated capability over a specified period of time. Factors affecting such ability include, but are not limited to, fuel availability, stream flow and/or reservoir storage for hydro units, energy storage capability for Energy Storage Resources, energy source variability and intermittency, mechanical limitations, and system operating policies. For this purpose, the basis for determining and demonstrating the capability of a particular generating unit shall be as described ~~below~~ in RAA, Schedule 9.1, ~~sections C and D~~.

C. Provisions for Unlimited Resources

For Unlimited Resources, the capability of the generating unit is based on the level of output that the unit can provide under the site conditions expected to exist at the time of PJM system peak load where such conditions include, but are not limited to, ambient air temperature, humidity, barometric pressure, intake water temperature, and cooling system performance. Generating units with the ability to operate continuously across all hours of an Operating Day without interruption if needed include, but are not limited to, nuclear and fossil-fired steam units, combined cycle units, combustion turbine units, reciprocating engine units, and fuel cell units.

D. Provisions for ELCC Resources

The Office of the Interconnection shall determine the capability of ELCC Resources to meet a Load Serving Entity’s obligations under the Agreement using an effective load carrying capability analysis, as set forth in RAA, Schedule 9.1, with additional implementation details provided in the PJM Manuals.

SCHEDULE 9.1: EFFECTIVE LOAD CARRYING CAPABILITY ANALYSIS

A. Overview of Effective Load Carrying Capability Analysis

The inputs of the effective load carrying capability analysis include:

- Historical weather and load data;
- Historical output of existing Variable Resources;

- Estimates of putative historical output for planned Variable Resources;
- Forced outage patterns for Unlimited Resources;
- Resource deployment forecast; and
- Modeling parameters for Limited Duration Resources and Combination Resources.

The outputs of the effective load carrying capability analysis include:

- The ELCC Portfolio UCAP, in MW;
- ELCC Class UCAP values, in MW; and
- ELCC Class Rating values, in percent.

B. Calculation of ELCC Portfolio UCAP

The effective load carrying capability analysis shall identify a scenario in which the aggregate installed capacity “X” of a group of Unlimited Resources with no outages yields the same annual loss of load expectation as the one produced by the scenario with all ELCC Resources that are expected to offer in a given RPM Auction, or otherwise provide capacity, in the Delivery Year being analyzed. The ELCC Portfolio UCAP shall be the value “X”.

C. Allocation from ELCC Portfolio UCAP to ELCC Class UCAP

The ELCC Portfolio UCAP shall be allocated to each ELCC Class UCAP, in accordance with the applicable effective load carrying capability analysis methodology specified in the PJM Manuals, as subject to adjustment in accordance with RAA, Schedule 9.1, section J, such that the aggregate of all ELCC Class UCAP values is equal to the ELCC Portfolio UCAP.

D. Calculation of ELCC Class Rating

(1) The ELCC Class Rating of Variable Resources and Limited Duration Resources shall be the ratio of the applicable ELCC Class UCAP to the aggregate Effective Nameplate Capacity of the modeled ELCC Resources of that ELCC Class that isare expected to offer in a given RPM Auction, or otherwise provide capacity, in the Delivery Year being analyzed.

(2) For Combination Resources, there shall be an ELCC Class Rating for each component.

(i) For a Combination Resource with a Limited Duration Resource component and a Variable Resource component, the Limited Duration Resource component ELCC Class Rating shall be equal to the quotient of (1) the Combination Resource ELCC Class UCAP minus the [product of the Variable Resource ELCC Class Rating and the aggregate Effective Nameplate Capacity of all the Variable Resource components within the subject Combination Resource class] divided by (2) the aggregate equivalent Effective Nameplate Capacity of all the Limited Duration Resource components within the subject Combination Resource class, and the Variable Resource component ELCC Class Rating shall be equal to the ELCC Class Rating for the ELCC Class to which the Variable

Resource component would belong if it were not a component of the Combination Resource.

(ii) For a Combination Resource with a Limited Duration Resource component and an Unlimited Resource component, the Limited Duration Resource component ELCC Class Rating shall be equal to the ELCC Class Rating for the ELCC Class to which the Limited Duration Resource component would belong if it were not a component of the Combination Resource, and the Unlimited Resource component would not have an ELCC Class Rating.

E. Calculation of Accredited UCAP and ELCC Resource Performance Adjustment and Allocation from ELCC Class UCAP to Accredited UCAP

~~(1)~~—(1) (a) For Variable Resources and Limited Duration Resources, Accredited UCAP values shall be equal to the product of:

- (a) the Effective Nameplate Capacity;
- (b) the applicable ELCC Class Rating, ~~except that the;~~ and
- (iii) the ELCC Resource Performance Adjustment.

(b) For Combination Resources, Accredited UCAP values shall be equal to the sum of the Accredited UCAP of each component, but not to exceed the Maximum Facility Output of the resource, where:

(i) The value for a Variable Resource component shall be determined in accordance with subsection (a) above.

(ii) The value for a Limited Duration Resource component shall be equal to the product of:

(A) the Effective Nameplate Capacity determined for the Limited Duration Resource component;

(B) [one minus the EFORD for the Limited Duration Resource component]; and

(C) the applicable Limited Duration Resource component ELCC Class Rating as determined in Section D(2)(i).

(iii) The value for an Unlimited Resource component shall be equal to the product of the installed capacity of the Unlimited Resource component and [one minus the EFORD for the Unlimited Resource component].

(iv) The Accredited UCAP for Hydropower With Non-Pumped Storage, and for each member of an ELCC Class whose members are so distinct from one another

~~that a single ELCC Class Rating fails to capture their physical characteristics, shall be based on a resource-specific effective load carrying capability analysis based on the resource's unique parameters; and (e) the ELCC Resource Performance Adjustment.~~

(2) The ELCC Resource Performance Adjustment shall be calculated according to the following methods, as further detailed in the PJM Manuals:

(a) For ~~a~~ Variable ~~Resources~~Resource: based on a metric consisting of the average of (1) actual output during the 200 highest coincident peak load hours over the preceding ten years, regardless of the ~~year~~years in which they occur, and (2) actual output during the 200 highest coincident peak putative net load hours over the preceding ten years, regardless of the ~~year~~years in which they occur, where putative net load is actual load minus the putative hourly output of Variable Resources based on the resource mix of the target year. For Planned Resources or resources less than 10 years old, estimated hypothetical historical output will be used to develop this metric. For a given resource ~~or component~~, the Performance Adjustment shall equal the ratio of such metric to the average (weighted by the Effective Nameplate Capacity) of such metrics for all units in the ~~class~~applicable Variable Resource ELCC Class.

(b) For Limited Duration Resources: based on EFORD.

(c) For Combination Resources with only an Unlimited Resource component and a Limited Duration Resource component: based on EFORD.

(d) For Combination Resources with a Variable Resource component (except for Hydropower With Non-Pumped Storage): (1) based on the direct metered or estimated output of the Variable Resource component, which is then assessed according to the methodology described in subsection (a) above for Variable Resources and in accordance with the PJM Manuals; and (2) based on the EFORD ~~of the Combination Resource as applied~~that is applicable to the ~~non-Variable~~Limited Duration Resource component.

(e) For Hydropower With Non-Pumped Storage and other Combination Resources that do not fall into the above categories: based on EFORD.

F. Installed Capacity of ELCC Resources

Rules and procedures for technically determining and demonstrating the installed capacity of ELCC Resources shall be developed by the Office of the Interconnection and maintained in the PJM Manuals. The installed capacity of a Limited Duration Resource is based on the sustained level of output that the unit can provide and maintain over a continuous period, whereby the duration of that period matches the characteristic duration of the corresponding ELCC Class, with consideration given to ambient conditions expected to exist at the time of PJM system peak

load, as described in the PJM Manuals. The installed capacity of a Combination Resource (other than Hydropower With Non-Pumped Storage) is based on the lesser of the Maximum Facility Output or the sum of the equivalent Effective Nameplate Capacity values of the resource's constituent components considered on a stand-alone basis.

G. Details of the Effective Load Carrying Capability Methodology

The effective load carrying capability analysis shall compare expected hourly load levels (based on historical weather) with the expected hourly output of the expected future resource mix in order to identify the relative resource adequacy value of the portfolio of all ELCC Classes, as well of each individual ELCC Class, compared to a group of Unlimited Resources with no outages. In performing this analysis, the model inputs shall be scaled to meet the annual loss of load expectation of the Office of the Interconnection. The effective load carrying capability analysis shall compare hourly values for: (i) expected load based on historical weather; (ii) expected Variable Resource output; and (iii) expected output of Limited Duration Resources and of Combination Resources as described below. These expected quantities are based on actual values for load and actual and putative values for Variable Resource output (standalone or as a component of Combination Resources) after June 1, 2012 (inclusive) through the most recent Delivery Year for which complete data exist. For resources that have not existed each year since June 1, 2012, putative output is an estimate of the hourly output that resource would have produced in a historical hour if that resource had existed in that hour. This putative output estimate is developed based on historical weather data consistent with the particular site conditions for each such resource in accordance with the PJM Manuals.

The effective load carrying capability analysis shall simulate forced outages of Unlimited Resources based on actual historical data, and shall simulate the output of Limited Duration Resources and Combination Resources based on their Office of the Interconnection-validated parameters, including the putative output of the ~~variable resource~~ Variable Resource component of Combination Resources, as described above. Forced outages of Limited Duration Resources and Combination Resources shall not be simulated in the effective load carrying capability analysis.

The quantity of deployed resources studied in the analysis shall be based on resource deployment forecasts and, where applicable, on available information based on Sell Offers submitted in RPM Auctions or Fixed Resource Requirement plans for the applicable Delivery Year.

The ELCC Class UCAP and other results of the effective load carrying capability analysis shall be based on the total Effective UCAP of the ELCC Class as a whole.

The ELCC Class UCAP and corresponding ELCC Class Rating values may increase or decrease from year to year as the expected resource mix and load shape change.

Energy Resources are not included in the effective load carrying capability analysis. Generating units that are expected to only offer or otherwise provide a portion of their Accredited UCAP for that Delivery Year are represented in the analysis in proportion to the expected quantity offered or delivered divided by the Accredited UCAP.

H. Methodology to Simulate Output of Certain Resources in the Effective Load Carrying Capability Model

The effective load carrying capability analysis shall simulate the output of Limited Duration Resources and Combination Resources based on their physical parameters, including limited storage capability, and shall simulate the deployment of Demand Resources. The analysis shall simulate output from the subject Limited Duration Resources and Combination Resources in hours in which all output from Unlimited Resources and available output from Variable Resources is insufficient to meet load. The output of the subject Limited Duration Resources and Combination Resources shall be simulated on an hour-by-hour basis in proportion to their Effective Nameplate Capacity without foresight to future hours. The simulated deployment of Demand Resources shall be such that there is adequate Primary Reserves provided by ~~generation~~economic resources, if sufficient simulated Demand Resources are available. Primary Reserves shall be assigned to generation resources in order to maximize simulated reliability, provided that assignments to Limited Duration Resources and Combination Resources shall be pro rata according to their Effective Nameplate Capacity. Primary Reserves shall be exhausted prior to identifying a loss of load event in the analysis. Energy Storage Resource charging is during hours with sufficient margin, including between daily peaks if necessary.

I. Administration of Effective Load Carrying Capability Analysis

The Office of the Interconnection shall post final ELCC Class UCAP and ELCC Class Rating values at least once per year in a report that also includes appropriate details regarding methodology and inputs. The Office of the Interconnection shall post this report and shall ~~post~~communicate ELCC Resource Performance Adjustment values to applicable Generation Capacity Resource Providers no later than ~~six~~five months prior to the start of the target Delivery Year, as described in the PJM Manuals. Starting with the 2023/2024 Delivery Year, Accredited UCAP values for the applicable Delivery Year shall establish the maximum Unforced Capacity that an ELCC Resource can physically provide or offer to provide in the applicable Delivery Year.

The Office of the Interconnection shall also post preliminary ELCC Class Rating values for nine subsequent Delivery Years. For any Delivery Year for which a final ELCC Class Rating has not been posted and a preliminary ELCC Class Rating has been posted, the Accredited UCAP of an ELCC Resource for such Delivery Year shall be based on the most recent preliminary ELCC Class Rating value for that Delivery Year, together with the most recently calculated ELCC Resource Performance Adjustment value for that ELCC Resource. Except to the extent specified

above or otherwise specified, the preliminary ELCC Class Rating values for future years are non-binding and are only for indicative purposes. A Generation Capacity Resource Provider can offer or provide capacity from an ELCC Resource that is not subject to a capacity market must offer obligation (as specified in Tariff, Attachment DD, Section 6.6) at a level less than the Accredited UCAP for such resource.

In order to facilitate the effective load carrying capability analysis, the Generation Capacity Resource Provider of each ELCC Resource must submit to the Office of the Interconnection the required information as specified in the PJM Manuals by no later than ~~the July 1 immediately preceding the calendar year~~ six months prior to an RPM Auction in which the ELCC Resource intends to submit a Sell Offer ~~into an RPM Auction~~ or otherwise commit to provide capacity, except for Delivery Years prior to the 2026/2027 Delivery Year such required information must be provided to the Office of the Interconnection in accordance with the PJM Manuals. The required information may include relevant physical parameters, relevant historical data such as weather data and actual or estimated historical energy output, and documentation supporting such parameters and historical data. The relevant physical parameters are those that are incorporated into the effective load carrying capability analysis. The parameters required for Hydropower With Non-Pumped Storage shall include Ordinary Water Storage and any applicable Exigent Water Storage. Submitted parameters must indicate the expected duration for which any submitted physical parameters are valid.

The Office of the Interconnection shall evaluate, validate, and approve the foregoing information in accordance with the process set forth in the PJM Manuals. In evaluating the validity of submitted information, the Office of the Interconnection may assess the consistency of such information with observed conditions. If the Office of the Interconnection observes that the information provided by the Generation Capacity Resource Provider of the ELCC Resource is inconsistent with observed conditions, the Office of the Interconnection will coordinate with the Generation Capacity Resource Provider of the ELCC Resource to understand the information and observed conditions before making a determination regarding the validity of the applicable parameters. The Office of the Interconnection may engage the services of a consultant with technical expertise to evaluate the foregoing information.

After the Office of the Interconnection has completed its evaluation of the foregoing information, the Office of the Interconnection shall notify the Generation Capacity Resource Provider in writing whether the submitted information is considered invalid by no later than September 1 following the submission of the information. ~~The effective date of the valid data, if approved by the Office of the Interconnection, shall be no earlier than June 1 of the applicable Delivery Year.~~ The Office of the Interconnection's determination on the validity of the foregoing information shall continue for the applicable Delivery Year and, if requested, for such longer period as the Office of the Interconnection may determine is supported by the data.

In the event that the Office of the Interconnection is unable to validate any of the required information, physical parameters, supporting documentation, or other related information submitted by the Generation Capacity Resource Provider of an ELCC Resource, then the Office of the Interconnection shall calculate Accredited UCAP values for that ELCC Resource based only on the validated information. Such ELCC Resource shall not be permitted to offer or otherwise provide capacity above such Accredited UCAP values until the Office of the Interconnection determines new Accredited UCAP values for such resource.

Generation Capacity Resource Providers of ELCC Resources that are hydropower plants with water storage must provide documentation to support the physical parameters provided for expected load ~~carry~~carrying capability analysis modeling, as specified in the PJM Manuals. This documentation must: (a) support the plant's physical capabilities; (b) demonstrate that the parameters do not violate any federal, state, river basin, or other applicable authority operating limitations of the plant; and (c) demonstrate full authorization from FERC, any river basin commissions, and any other applicable authorities to meet those capabilities.

J. ELCC Transition Mechanism

(1) A transition mechanism shall be established whereby PJM shall post floor values establishing a lower bound on the ELCC Class Ratings that apply to ELCC Resources in the determination of each ELCC Resource's Accredited UCAP. This transition mechanism can be evaluated at any time and shall be evaluated ~~as part of the~~in conjunction with a quadrennial periodic review of the shape of the Variable Resource Requirement Curve, as described in Tariff, Attachment DD, section 5.10, ~~but no later than the end of 2026, and as necessary, in any periodic review of the Variable Resource Requirement Curve shape following 2026.~~ Such evaluation shall include an assessment of the efficacy and appropriateness of the transition mechanism and shall make recommendations as to whether some or all aspects of the transition mechanism should be reconsidered through a stakeholder process. The already-established floor values and associated term duration for each cohort should apply for their entire term, as described below, regardless of the outcome of such evaluation, except as described in subsection (3)(f) below.

For purposes of implementing this transition mechanism, ELCC Resources shall be organized into annual cohorts. Each cohort shall share an associated table of floor values on the ELCC Class Ratings spanning the duration described below. Floor values shall be calculated using effective load carrying capability analysis for future years, applying a resource mix that reflects more conservative ELCC Class Ratings than expected, as set forth in subsection (3)(d) below. Floor values shall be posted on an annual cycle, each posting of which shall include floor values for no more than ten calendar years in the future.

Tables of floor values will apply for the Delivery Years as specified below. For new ELCC Resources, the ELCC Class Rating floor values contemplated by this RAA, Schedule 9.1, section J shall apply upon:

(a) completion of one of the following milestones in the New Services Queue: (i) execution of an Interconnection Service Agreement by the Interconnection Customer, or equivalent, for the ELCC Resource; (ii) execution of a Wholesale Market Participation Agreement by the wholesale market participant, or equivalent, for the ELCC Resource; or (iii) posting credit to submit a Sell Offer into at the next Base Residual Auction, pursuant to the applicable RPM Auction Credit Rate; and

(b) receipt by the Office of the Interconnection of a written attestation, in a form specified in the PJM Manuals, by the Generation Capacity Resource Provider of the ELCC Resource affirming the Generation Capacity Resource Provider's intent to proceed to provide capacity in the PJM Region. Such attestation shall be provided to the Office of the Interconnection after reaching one of the milestones identified in subsection (a) above.

(2) Cohorts

(a) **2021 Cohort.** A table of floor values for Delivery Years 2021/22 through 2033/34 shall apply to ELCC Resources that on or before December 31, 2021 are Existing Generation Capacity Resources or satisfy the requirements of RAA, Schedule 9.1, section J(1)(a) and (b) above. A ~~draft~~ table of preliminary ELCC Class Rating floor values for Delivery Years 2021/2022 through 2030/2031 shall be posted before June within six months of this Schedule 9.1 becoming effective but no later than December 31, 2021; ~~draft~~preliminary floor values for Delivery Years 2031/2032, 2032/2033, and 2033/2034 shall be posted on or before December 31 of 2022, 2023, and 2024, respectively.

(b) **2022 Cohort.** A table of floor values for Delivery Years 2022/23 through 2034/35 shall apply to ELCC Resources that meet the requirements in RAA, Schedule 9.1, section J(1)(a) and (b) above on or after January 1, 2022 and on or before December 31, 2022. ~~Draft~~Preliminary floor values for Delivery Years 2022/2023 through 2031/2032 shall be posted on or before December 31, 2021; ~~draft~~preliminary floor values for Delivery Years 2032/2033, 2033/2034, and 2034/2035 shall be posted on or before December 31 of 2022, 2023, and 2024, and 2025, respectively.

(c) **2023 Cohorts and later.** For each of the thirteen consecutive Delivery Years beginning with the Delivery Year that starts in the calendar year in which an ELCC Resource ~~meet~~meets the requirements in RAA, Schedule 9.1, section J(1)(a) and (b) above, a set of ELCC Class Rating floor values shall apply to such ELCC ~~Resources.~~ ~~Draft~~Resource. Preliminary floor values for the first ten Delivery Years in the table shall be posted on or before December 31 prior to the ~~relevant calendar year; draft~~first Delivery Year to which a floor value applies; preliminary floor values for Delivery Years eleven, twelve, and thirteen shall be posted on or before December 31 of each of the immediately following three calendar years, respectively. This timing is reflected in the

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below table, where “X” is the year in which the ELCC Resource meets the requirements in RAA, Schedule 9.1, section J(1)(a) and (b) above.

Calendar Year In which Floor Values Are Posted for Cohort “X”	Target Delivery Year	ELCC Class Rating Floor for Cohort X
X-1	X/X+1	Value I
X-1	X+1/X+2	Value II
X-1	X+2/X+3	Value III
X-1	X+3/X+4	Value IV
X-1	X+4/X+5	Value V
X-1	X+5/X+6	Value VI
X-1	X+6/X+7	Value VII
X-1	X+7/X+8	Value VIII
X-1	X+8/X+9	Value IX
X-1	X+9/X+10	Value X
X	X+10/X+11	Value XI
X+1	X+11/X+12	Value XII
X+2	X+12/X+13	Value XIII

~~Draft~~Preliminary floor values shall be finalized within ~~150~~120 days of posting. Upon posting the preliminary floor values, the Office of the Interconnection shall conduct a retrospective review to determine if any potential errors occurred in its implementation of this section J, whereby the potential error, if verified, could have a material impact on the posted preliminary floor values. In the event the Office of the Interconnection discovers such a potential error ~~in a draft floor value~~ within 60 days of posting such ~~draft~~preliminary floor value, the Office of the Interconnection will notify Market Participants of the existence of the potential error as soon as possible, but in no event later than 60 days after posting the applicable ~~draft~~preliminary floor value. Within 45 days of identifying a potential error in a ~~draft~~preliminary floor value, the Office of the Interconnection shall consult with Market Participants, and provide all available supporting documentation (such documentation shall not contain market sensitive or confidential information), prior to determining whether to modify an initially posted ~~draft~~preliminary floor value. If the Office of the Interconnection determines it is necessary to modify an initially posted ~~draft~~preliminary floor value, it shall notify Market Participants of its intent to do so and post such notification on its website by no later than ~~60~~45 days following the notification of a discovery of a potential error in the ~~draft~~preliminary floor value. The Office of the Interconnection shall post on its website the corrected floor value by no later than ~~150~~120 days following the initial posting of the ~~draft~~preliminary floor value. Should any of the above

deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted floor values will be considered final.

To the extent an ELCC Resource satisfies the requirements of RAA, Schedule 9.1, section J(1)(a) and (b) above on or after the January 1 following the posting of the preliminary floor value applicable to that ELCC Resource, and within 60 days of such posting, and the Office of the Interconnection identifies a potential error with respect to that floor value, the Generation Capacity Resource Provider may elect for the ELCC Resource to be included in the cohort for the prior calendar year. Any election to be included in the cohort for the prior calendar year must be provided in writing to the Office of the Interconnection within 10 days after the Office of the Interconnection consults with Market Participants regarding the potential error.

(3) General Rules for ELCC Class Rating Floor Values

(a) In a given annual posting cycle, for floor values that are ten years in the future and therefore have not previously been posted, the same floor value shall be posted for use across all cohorts of an ELCC Class for a given Delivery Year for which such floor will be applicable.

(b) For a given resource, at the end of the term of applicability of the original set of ten floor values, as extended with three additional floor values, the rules in place at that time for determining Accredited UCAP (or otherwise determining the amount of Unforced Capacity that such resource is eligible to offer or provide) will apply.

(c) The ELCC Class Rating used to determine the Accredited UCAP of an ELCC Resource is the greater of the applicable floor value or the most recently posted final or preliminary ELCC Class Rating for the target Delivery Year.

(d) The ELCC Class Rating floor values for each ELCC Class shall be calculated using the same form of effective load carrying capability analysis used for calculating ~~preliminary~~ ELCC Class Ratings for future years, except that the forecasted resource mix used for calculating the ELCC Class Ratings (the “expected forecast”) shall be adjusted for the calculation of the floor value for each ELCC Class (the “floor forecast”) in order to reflect a more conservative ELCC Class Rating value. Each ELCC Class shall have a unique floor forecast that accounts for the interaction among ELCC Classes, both the given subject ELCC Class and the other ELCC Classes, through adjusting (up or down) the rate of deployment expected for each ELCC Class ~~in the effective load carrying capability analysis used for calculating preliminary ELCC Class Ratings for future years.~~ The floor forecast for a given ELCC Class of Variable Resources or Limited Duration Resources shall be developed according to the following method:

(i) Any expected increase in deployment of ELCC Resources in the given subject class in each year shall be accelerated in an exponential fashion such that the increase in deployment after 10 years shall be twice the value in the expected forecast.

(ii) For ELCC Resources in ELCC Classes other than the given subject ELCC Class that show a complementary interaction with the given subject class in the effective load carrying capability analysis, where a complementary interaction occurs in the case that the increase in deployment of the complementary class tends to increase the ELCC Class Rating of the subject class, any expected increase in deployment in a complementary ELCC Class shall be decelerated in an exponential fashion such that the increase in deployment after ten years shall be half the value in the expected forecast; any expected decrease in deployment in a complementary ELCC Class shall be accelerated in an exponential fashion such that the decrease in deployment after ten years shall be twice the value in the expected forecast.

(iii) For ELCC Resources in ELCC Classes showing an antagonistic interaction with the given subject class in the effective load carrying capability analysis, where an antagonistic interaction occurs in the case that the increase in deployment of the antagonistic class tends to decrease the ELCC Class Rating of the subject class, any expected increase in deployment in an antagonistic class shall be accelerated in an exponential fashion such that the increase in deployment after ten years shall be twice the value in the expected forecast; any expected decrease in deployment in an antagonistic class shall be decelerated in an exponential fashion such that the decrease in deployment after ten years shall be half the value in the expected forecast.

For Combination Resources, the applicable floor values will be determined in accordance with a procedure set forth in the PJM Manuals that appropriately reflects and merges the floor values determined for the distinct components of the Combination Resource in a manner consistent with the methodology above.

However, for Hydropower With Non-Pumped Storage, the applicable floor values will be determined, using the foregoing method, on a resource-specific basis and not on an ELCC Class basis.

(e) The ELCC Class Rating used to determine an Accredited UCAP shall not be below the applicable floor value. ELCC Classes shall be organized into groups for the purpose of sharing the risk that a final or preliminary ELCC Class Rating for a Delivery Year is lower than the corresponding ELCC Class Rating in any table of floor values for such Delivery Year. In that event,

(i) for ELCC Resources with a final or preliminary ELCC Class Rating below the applicable floor value, the Accredited UCAP shall be determined using the ELCC Resource's ELCC Resource Performance Adjustment, in accordance with the methods set forth in RAA, Schedule 9.1, section E, and the applicable ELCC Class Rating floor value;

(ii) for ELCC Resources with a final or preliminary ELCC Class Rating above the applicable floor value, the Accredited UCAP shall be determined using the ELCC Resource's ELCC Resource Performance Adjustment, in accordance with the methods set forth in RAA, Schedule 9.1, section E, and the ELCC Class Rating, which is determined in accordance with the methodology set forth in RAA, Schedule 9.1, section D, except that (1) the value used in place of ELCC Class UCAP is equal to [the sum of the ELCC Class UCAP for each ELCC Class of the subject group minus the sum of the Accredited UCAP of the ELCC Resources that are accredited based on floor values], which in turn is allocated to each ELCC Class in accordance with the methodology specified in the PJM Manuals that is consistent with the allocation methodology of RAA, Schedule 9.1, section C for allocating the ELCC Portfolio UCAP among the ELCC Classes, then further adjusted by a factor based on ELCC Resource Performance Adjustment values such that the total Accredited UCAP of all resources of each class does not exceed the ELCC Class UCAP and (2) the relevant aggregate Effective Nameplate Capacity shall be the sum of the Effective Nameplate Capacity of the members of the ELCC Class that are accredited based on a final or preliminary ELCC Class Rating above the applicable floor value.

Provided, however, if the aggregate ELCC Class UCAP of the entire group is less than the aggregate Accredited UCAP of the ELCC Resources of the group that are accredited based on floor values, then the ELCC Class Rating for ELCC Resources with a final or preliminary ELCC Class Rating above the applicable floor value shall be determined in accordance with the methodology set forth in RAA, Schedule 9.1, section D, except that (3) the value used in place of ELCC Class UCAP is equal to [the ELCC Portfolio UCAP minus the aggregate Accredited UCAP of the resources of the group that are accredited based on floor values] which in turn is allocated to each ELCC Class in accordance with the methodology specified in the PJM Manuals that is consistent with the allocation methodology of RAA, Schedule 9.1, section C for allocating the ELCC Portfolio UCAP among the ELCC Classes, then further adjusted by a factor based on ELCC Resource Performance Adjustment values such that the total Accredited UCAP of all resources of each class does not exceed the ELCC Class UCAP, and (4) the relevant aggregate Effective Nameplate Capacity shall be the sum of the

Effective Nameplate Capacity of the members of the ELCC Class that are accredited based on a final or preliminary ELCC Class Rating above the applicable floor value.

ELCC Class groups shall be defined in the PJM Manuals. The groups shall be defined in accordance with the following principles:

~~(iii)—Each (1) each~~ group shall be composed of ELCC Classes that shall share relevant physical characteristics;

~~(iv)—Each and (2) each~~ group is broad enough to include a significant fraction of the ELCC Portfolio UCAP, with consideration given to ELCC Classes that are expected to increase in deployment over the ten-year term of the effective load carrying capability analysis.

(f) While recognizing the general principle that the floor values already issued for a specific resource generally would not be changed, the limited circumstances under which the posted final floor values could be changed include: (i) the Office of the Interconnection no longer performs the effective load carrying capability analysis set forth in this RAA, Schedule 9.1; or (ii) the Office of the Interconnection no longer determines Accredited UCAP prior to conducting an RPM Auction.

Nothing in RAA, Schedule 9.1 is intended to constrain the authority of the PJM Board in any way. The Office of the Interconnection and the PJM Board retain all of their filing rights, including the right to file with FERC as needed to: (iii) change the effective load carrying capability constructs and the effective load carrying capability analysis; (iv) change the methodology specified in this section J for calculating floors that are to be posted in the future; and (v) cease the posting of new floor values. None of the foregoing shall provide a basis for a new transition period or any other form of compensation to a Generation Capacity Resource Provider.

(g) The applicable table of floor values will continue to apply even if an ELCC Resource offers less than their Accredited UCAP.

(h) For purposes of determining floor values in this section J, uprates to individual ELCC Resources are treated as if each uprate is a separate ELCC Resource. The total Accredited UCAP of an ELCC Resource, including all uprates, shall be the sum of the respective Accredited UCAP values.

(i) The floor value applicable to an ELCC Resource is not transferable to a different ELCC Resource.